

**CIVR2002*****The Challenge of Image and Video Retrieval****International Conference on Image and Video Retrieval**July 18-19, 2002, The Brunei Gallery, SOAS, Russell Square, London, UK*

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***GENERAL INFORMATION***

The [Programme](#) is now available.

[Instructions](#) for presenters.

**\*\*\*Tube Strike\*\*\***

A London underground strike is currently scheduled for 24 hours from 8pm on Wednesday evening. The conference venue is quite centrally located and within about thirty minutes walk of most mainline stations but delegates may wish to take this into account when making their travel plans. [More information.](#)

The proceedings will be published by Springer in their Lecture Notes in Computer Science series [vol 2383](#).

Registration information is available [here](#).

Image and video storage and retrieval continues to be one of the most exciting and fastest-growing research areas in the field of multimedia technology. However, opportunities for the exchange of ideas between different groups of researchers, and between researchers and potential users of image retrieval systems, are still limited. The Challenge of Image Retrieval series of conferences was originally set up to bridge the gap between the different communities with an interest in image retrieval.

This conference, the fourth in the series, aims to provide an international forum for the discussion of challenges in the fields of image and video retrieval. A unique feature of the conference is the high level of participation from practitioners. Applications papers and presentations suitable for a wide audience are therefore particularly welcome.

**KEYNOTE SPEAKER:**

[Arnold Smeulders](#)

University of Amsterdam

**LOCATION**

The location of the Conference is now  
[The Brunei Gallery](#),  
School of Oriental and African Studies,  
Thornhaugh Street,  
Russell Square,  
[London](#), UK

[Car Parking Information](#)

**CIVR SPONSORS:**

[The BCS Information Retrieval Specialist Group](#)

[The British Machine Vision Association](#)

[The Institute for Image Data Research, University of Northumbria](#)

[The Leiden Institute of Advanced Computer Science.](#)

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[The Institute for Image Data Research, University of Northumbria](#)

[The Leiden Institute of Advanced Computer Science.](#)

## ***Registration***

The registration form is available as a [Word 2000 document](#)  
It is also available in [rich text format \(rtf\)](#) or as [an html file](#).

Please print off a registration form, complete and send to

Simon Farrenden  
CIVR2002 Treasurer,  
Department of Electronics and Computer Science,  
University of Southampton,  
Highfield,  
Southampton,  
UK  
SO171BJ

# **CIVR 2002**

## **Programme**

### **Day 1 Thursday July 18, 2002**

**9.00 - 9.30 Registration**

**9.30 - 10.30 Keynote address**

Content-based Image Retrieval at the End of the Early Years  
Arnold Smeulders, University of Amsterdam

**10.30 - 10.50 Coffee:**

**10.50 - 12.30 Submitted papers Session 1 - Image Retrieval I**

Visualization, Estimation and User-Modeling for Interactive Browsing of Image Libraries  
Qi Tian, Baback Moghaddam, and Thomas Huang

Robust Shape Matching  
Nicu Sebe and Michael Lew

Semantics Based Image Retrieval by Region Saliency  
Wei Wang, Yuqing Song and Aidong Zhang

The Truth About Corel - Evaluation in Image Retrieval  
Henning Muller, Stephane Marchand-Maillet and Thierry Pun

Non-Retrieval: Blocking Pornographic Images  
Alison Bosson, Gavin Cawley, Yi Chan and Richard Harvey

**12.30 - 12.45 "Boaster" Session 1**

**12.45 - 14.00 Lunch and Poster Session 1**

**Image/Video Retrieval Poster Session 1**

A Linear Image-Pair Model and the Associated Hypothesis Test for Matching  
G. Cox, G. de Jager

Query by Fax for Content-Based Image Retrieval  
M.F.A. Fauzi, P.H. Lewis

On the Coupled Forward and Backward Anisotropic Diffusion Scheme for Color  
Image Enhancement  
B. Smolka, K.N. Plataniotis

Spectrally Layered Color Indexing  
G. Qiu, K.-M. Lam

Atomsnet: Multimedia Peer 2 Peer for File Sharing  
W. de Bruijn, M.S. Lew

Using an Image Retrieval System for Vision-Based Mobile Robot Localization

J. Wolf, W. Burgard, H. Burkhardt

Multiple Regions and Their Spatial Relationship-Based Image Retrieval

B.C. Ko, H. Byun

Visual Clustering of Trademarks Using the Self-Organizing Map

M. Hussain, J. Eakins, G. Sexton

JPEG Image Retrieval Based on Features from DCT Domain

G. Feng, J. Jiang

Image Retrieval Methods for a Database of Funeral Monuments

A.J. Howell, D.S. Young

FACERET: An Interactive Face Retrieval System Based on Self-Organizing Maps

J. Ruiz-del-Solar, P. Navarrete

Object-Based Image Retrieval Using Hierarchical Shape Descriptor

M.-W. Leung, K.-L. Chan

#### **14.00 - 15.20 Submitted papers, Session 2 - Video Retrieval**

Multimodal Person Identification in Movies

Jeroen Vendrig and Marcel Worring

Automated Scene Matching in Movies

Frederik Schaffalitzky and Andrew Zisserman

Content Based Analysis for Video from Snooker Broadcasts

H. Denman, N. Rea and A.Kokaram

Retrieval of Archival Moving Imagery - CBIR Outside the Frame?

P.G.B. Enser and C.J. Sandom

#### **15.20 - 15.40 Tea**

#### **15.40 - 17.00 Submitted papers, Session 3 - Image Retrieval II**

Spin Images and Neural Networks for Efficient Content-Based Retrieval in 3D Object Databases

Pedro A de Alarcon, Alberto D. Pascual-Montano, Jose M. Carazo

Size Functions for Image Retrieval: A Demonstrator on Randomly Generated Curves

A. Brucale, M. d'Amico, M. Ferri, L. Gualandri, A. Lovato

An Efficient Coding of Three-Dimensional Colour Distributions for Image Retrieval

Jeff Berens and Graham D. Finlayson

Content Based Retrieval of Historical Watermark Images: I - Tracings

K. Jonathan Riley and John P. Eakins

**17.00 - 17.15 "Boaster" Session 2**

**17.15 - 18.30 Drinks Reception and Poster Session 2**

**Image/Video Retrieval Poster Session 2**

Object Recognition for Video Retrieval

R. Visser, N. Sebe, E.M. Bakker

Semantic Video Retrieval Using Audio Analysis

E.M. Bakker, M.S. Lew

Extracting Semantic Information from Basketball Video Based on Audio-Visual Features

K. Kim, J. Choi, N. Kim, P.K. Kim

Local Affine Frames for Image Retrieval

S. Obdrzalek, J. Matas

A Method for Evaluating the Performance of Content-Based Image Retrieval Systems Based on Subjectively Determined Similarity Between Images

J.A. Black, G. Fahmy, S. Panchanathan

A Ranking Algorithm Using Dynamic Clustering for Content-Based Image Retrieval

G. Park, Y. Baek, H.-K. Lee

Evaluation of Salient Point Techniques

N. Sebe, Q. Tian, E. Loupiaz, M.S. Lew, T.S. Huang

Video Indexing and Retrieval for Archeological Digital Library, CLIOH

J. Huang, D. Umamaheswaran, M. Palakal

Personal Construct Theory as a Research Tool for Analysing User Perceptions of Photographs

M.A. Burke

Online Bayesian Video Summarization and Linking

X. Orriols, X. Binefa

Fast k-NN Image Search with Self-Organizing Maps

K.S. Oh, A. Zaher, P.K. Kim

Video Retrieval by Feature Learning in Key Frames

M.J. Pickering, S.M. Ruger, D. Sinclair

Face Detection for Video Summaries

J.E. Viallet, O. Bernier

**Day 2 Friday July 19, 2002**



**9.00 - 9.30 Registration**

**9.30 -10.30 Keynote address**

[Information Retrieval and Summarization from Video](#)

Alexander Hauptmann, Carnegie Mellon University.

**10.30 11.00 Coffee break**

**11.00 -12.00 Bringing research into the marketplace**

[The added-value of CBIR technology in a business context: a case for cooperation between business and research](#)

Sebastien Gilles, LTU Technologies

[CBIR - Why & What For?](#)

Nic Sheen, iBase Ltd

**12.00 13.00 The User and CBIR**

[Visual Searching: Finding What You Want \(and What You Don't Want!\)](#)

Margaret Graham and Annette Ward, University of Northumbria

[A Review of the ARTISTE Project](#)

James Stevenson, V&A

**13.00 - 14.00 Lunch**

**14.00 - 15.30 Video Indexing and Retrieval**

[Challenges for Content-based Navigation of Digital Video in the Fischlar Digital Library](#)

Alan Smeaton, Dublin City University

[The future of video indexing in the BBC](#)

Chris Wilkie, BBC Information Archives

[The Challenges of Video Indexing and Retrieval Within a](#)

Commercial Environment

Chris Porter, Getty Images

**15.30 16.00 Tea break**

**16.00 - 16.45      Semantic Image Retrieval**

[Bridging the Semantic Gap](#) A discussion session on the way ahead

John Eakins, University of Northumbria with a panel of international experts planned to include Thomas Huang, University of Illinois and Sethuraman Panchanathan, University of Arizona

**16.45 -17.00      Closing Remarks**

John Eakins, University of Northumbria

**End of Conference**

## **Taking Part in the CIVR2002 Exhibition**

An exhibition will be held on Day 2 of CIVR2002, which will take place in the Foyer of the Brunei Gallery.

As in past years, we are hoping to attract a wide range of people to the Conference, including researchers in information retrieval, databases, image processing, human visual perception and interface design; end-users of images; managers of image and video collections; and software developers. The exhibition will, therefore, be of particular interest to those organisations wishing to promote their products and publications in these subject areas.

There are a limited number of spaces remaining for exhibitors, of varying size and at a very reasonable cost, which would include the provision of screens, tables and power points if required.

If you would like to participate in the Conference as an exhibitor, or would like to receive further information, please contact

Karen Furness [email [karen.furness@northumbria.ac.uk](mailto:karen.furness@northumbria.ac.uk)]

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## ***Programme Committee***

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Larry Chen, Kodak Research Labs  
John Eakins, University of Northumbria  
Peter Enser, University of Brighton  
Graham Finlayson, University of East Anglia  
David Forsyth, UC Berkeley  
Theo Gevers, University of Amsterdam  
Margaret Graham, University of Northumbria  
Richard Harvey, University of East Anglia  
Tom Huang, University of Illinois at Urbana-Champaign  
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Josef Kittler, University of Surrey  
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Majid Mirmehdi, University of Bristol  
Chahab Nastar, LTU technologies  
Eric Pauwels, Katholieke University of Leuven  
Maria Petrou, University of Surrey  
Chris Porter, Getty Images  
Tony Rose, Reuters Limited  
Yong Rui, Microsoft Research  
Phillipe Salembier, University of Barcelona  
Stan Sclaroff, Boston University  
Nicu Sebe, University of Leiden  
Alan Smeaton, Dublin City University  
Arnold Smeulders, University of Amsterdam  
Barry Thomas, University of Bristol

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Alan Smeaton

Dublin City University

[asmeaton@compapp.dcu.ie](mailto:asmeaton@compapp.dcu.ie)

## ***Conference History***

[The Challenge of Image Retrieval](#) series of conferences was originally established to bridge the gap between the different communities with an interest in image retrieval.

The first event, CIR 98, began in Newcastle in 1998 when a 2-day Symposium and Workshop was held. CIR99 was also held in Newcastle and CIR2000 was held in Brighton.



Dear CIVR Presenter,

All of the talks were designated by the PC Committee as either Oral or Poster Presentation. The type of talk was mentioned in the acceptance email sent to you and also can be verified on the CIVR website ([www.civr2002.org](http://www.civr2002.org)). The instructions for both the oral and poster presentations are given in this document:

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## "ORAL PRESENTATION" INSTRUCTIONS:

### PRESENTING YOUR PAPER

You should be present in the Auditorium in time for your presentation, from where you will be called to the stage by the Session Chair. Your presentation should last around 20 minutes. Please remember to keep an eye on the Session Chair, who will give you a signal when the time is approaching to bring your presentation to a close. The order of the talks is given on the CIVR website.

### EQUIPMENT

The following equipment will be made available in the Auditorium: PC and data projector equipped with Windows Office 2000 (including Powerpoint), and Adobe Acrobat Reader. Important please note that, in order to ensure that the event runs as smoothly as possible, speakers are being discouraged from making presentations using their own notebooks/laptops, in favour of using the equipment above. For this reason, presentations should be brought to the conference on either floppy disk or CD-ROM. If you feel it is imperative to use your personal laptop for your presentation (i.e. if you are using video sequences), please contact Karen Furness ([karen.furness@unn.ac.uk](mailto:karen.furness@unn.ac.uk)) in advance. Overhead projector 35mm slide projector VHS video player If you need to be provided with any equipment that is not listed here, please contact Karen Furness ([karen.furness@unn.ac.uk](mailto:karen.furness@unn.ac.uk)) in plenty time for this to be arranged.

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## "POSTER PRESENTATION" INSTRUCTIONS:

### LOCATION AND DATE

The Poster Display will take place in the Foyer of the Brunei Gallery on Thursday, July 18th 2002. There will be two sessions Poster Session 1 is begins at 12:45pm, and Poster Session 2 begins at 5:15pm. When you arrive, you should ask at the registration desk for the number of your poster stand and your poster session. Note that you can already find out which poster session you are in from the provisional programme at the conference website.

## EXHIBITION PANELS

You will be provided with an exhibition stand made up of four 600 x 900 mm panels (1200mm width and 1800mm height). Stands will be numbered; Please note that posters must be mounted on the display boards using only Velcro (supplied by the conference organisers); tacks, Sellotape etc. will not be allowed.

## TIMETABLE

The exhibition stands will already have been set up by the time you arrive. The timetable of activities is as follows: Poster Session 1 8:30am - 9:30am - Presenters to set up displays 12:30pm - 12:45pm - Boaster Session (see below) 12:45pm - 2:00pm - Poster Session 1 Poster Session 2 2:30pm - 3:20pm - Presenters to set up displays 5:00pm - 5:15pm - Boaster Session (see below) 5:15pm - 6:30pm - Poster Session Please remove your posters as soon as possible after your session.

## BOASTER SESSIONS

Each Poster Session will be preceded by a Boaster Session - this will be your chance to inform your audience about the display you have provided. Presenters from each session will be invited to the Auditorium stage to speak to delegates for one minute only. You may use a single overhead transparency to illustrate your talk if you wish. The person nominated to boast about your display should make their way to the side of the stage as quickly as possible at the beginning of the session, and form an orderly queue! You will then be invited to the stage, as a group, by the Session Chair.

CIVR2002 Organising Committee June 2002.

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International Conference on Image and Video Retrieval, Brunei Gallery, Russell Square, London, July 18-19, 2002

**CIVR 2002 Registration Form**

Please print out this form and post or fax to the Conference Treasurer at the address below.

Title:	First Name:	Last Name:
Company/Institution:		Position:
Address:		
City:	Country:	Post/Zip Code:
Phone:	Fax:	Email:
I am happy for my name and institution to appear on the list of delegates.    yes / no		

Registration covers attendance at the conference, proceedings, refreshments and lunch. Members from our sponsoring organisations and graduate students qualify for discounts. **Delegates attending the conference are responsible for making their own accommodation arrangements.**

I am a member of:	Circle here	Membership #	I am a member of	Circle here	Membership #
Inst. of Electrical Engineers	yes / no		BCS	Yes / no	
			BMVA	Yes / no	
I am a graduate student and enclose a covering note from my supervisor				yes / no	

Please register me as follows (tick appropriate option)

Option	Full Fee	Tick	Fee with Member Discount	Tick	Fee with Student Discount	Tick
Full conference, academic/non profit organisation	£275		£250		£195	
Full conference, commercial organisation	£375		£340			
One day only, academic/non profit organisation	£180					
One day only, commercial organisation	£240					

If you are registering for one day only, please indicate which day. ( Please circle ) July 18<sup>th</sup> or July 19<sup>th</sup> .The last date for booking is June 30<sup>th</sup>. (Bookings after this incur a £40 administration surcharge and no discounts.)

Payment methods: please delete those which do not apply

- 1) I enclose a cheque or bankers draft for £\_\_\_\_\_ (UK pounds) made payable to the University of Southampton
- 2) Please send an invoice for £\_\_\_\_\_ (UK pounds) to the following address

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 3) I wish to pay by credit card. (A handling surcharge of 1.5% will be added.) My card details are as follows.

Card type (Not American Express or Diners Card):	Registered Card Address:
Card Number:	Amount (without surcharge):
Expiry Date (mm/yy):	Signature:

Please send or fax your completed registration form to:

Simon Farrenden,  
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Telephone: (+44) (0) 2380592980

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Email: [sjf@ecs.soton.ac.uk](mailto:sjf@ecs.soton.ac.uk)

## Information retrieval and summarization from video

*Alex Hauptmann*

The Informedia Project at Carnegie Mellon University has created a multi-terabyte digital video library consisting of thousands of hours of video, segmented into tens of thousands of documents.

Informedia processing identifies segments and shots, and adds image metadata in the form of identified news anchorperson shots and face detection. It also adds transcripts via capturing video closed-captioning or generating it through speech recognition, determining when each word was spoken through an automatic alignment process using the Sphinx-III speech recognizer, and filtering the text into a mixed upper and lower case presentation. Further text metadata for the video document comes from detecting and extracting text overlaid on the video image. Text metadata is used as source material for building word search indices and deriving named entities.

The Informedia system enables searches for images in video collections, as well as word searches for textual metadata extracted from the video content. In addition to retrieval, a major challenge is the presentation of results, since looking at even a few video clips can take a relatively long time. Thus we have developed mechanisms for summarizing and presenting video metadata into "collages" across different dimensions, such as time, space (geography), and relevance.

## **The added-value of CBIR technology in a business context: a case for cooperation between business and research**

*Sébastien Gilles*

All commercial companies engaged in the industrial CBIR battle bet on the fact that very soon, CBIR will shift from being a « nice-to-have » to a « must-have » feature for Visual Asset Management (VAM) systems. Central to this view is the idea that a technological innovation has a certain value at a certain time in a business context.

As a « disruptive innovation », CBIR threatens existing paradigms and architectures which mostly rely on text-based tools and that are costly to operate. This means space and potential high-value for CBIR. As a technological breakthrough, however, CBIR potentially revolutionizes the way people work in a corporation. Thus, it suffers from the usual perception, from the decisive buyer's standpoint, of the technological risk attached to it.

As an example, I will show how a company like LTU, by maximizing the value of its CBIR technology for its clients, tackles the issue of bringing innovation to its target markets, from the initial technology transfer (from academic research) to its adaptation to business needs.

## **CBIR - Why & What For?**

*Nic Sheen*

Having worked with CBIR technology for about 2 years now, iBase have been looking for areas of commercial application. There is no doubt CBIR is a technology looking for an application. However, because of the generic nature of the technology and non-specialist [i.e. very generic image features] on which it is based, successful application has been limited to specialist domains where apriori information has also been applied to solve particular problems. The paper will consider what features one would like in a general CBIR system and potential areas of image management and retrieval where CBIR technology could be employed. It is the author's hope that in generating discussion about what problems could be solved, research can be focused on these areas and more general applications of CBIR will result that will undoubtedly then generate positive feedback into the research.

## Visual searching: finding what you want (and what you don't want!)

*Annette A. Ward,  
Margaret E. Graham, K.  
Jonathan Riley*

Searching digital image libraries will become more challenging as collections and users continue to increase. Traditional image retrieval using text descriptors may not be adequate. Another computer technique, content-based image retrieval (CBIR), retrieves images based on colour, texture, and shape and locates visually similar matches for a selected painting, print, drawing, or other image. CBIR was added to the traditional retrieval systems for the Corporation of London Guildhall Library and Art Gallery, *Collage*, The British Library, the BBC Elvis II Electronic Visual Image Store, the Bristol Biomedical Archive and the Visual Arts Data Service. The objective of this research was to install commercial CBIR software on digital image databases and evaluate effectiveness by conducting user evaluations. This presentation will describe the technical procedures required to enhance these collections, report results regarding user evaluation of the sites, and delineate the potential of CBIR for other digital image library collections.

## **A Review of the ARTISTE Project**

*James Stevenson*

Artiste is an EU funded IST project which brings together both technical and content partners from highly regarded European institutions.

Art researchers, historians and museum curators have a requirement for dynamic search and retrieval of high-resolution art images by their content. To be able to do this will substantially increase their efficiency in tasks such as matching art fragments, detecting and verifying authorship and researching painting styles and methods.

ARTISTE is designed to improve methods for image searching by enabling the user to have access to a variety of image searching algorithms which combine the best of both metadata searching and content based searching. The potential for this is great and will allow art academics to relate images in disparate collections by comparing image features directly.



## Challenges for content-based navigation of digital video in the Físchlár Digital Library

*Alan F. Smeaton*

Now that the engineering problems associated with creating, manipulating, storing, transmitting and playback of large volumes of digital video information are well on their way to being solved, attention is turning to content-based and other means to access video from large collections.

In this paper we present an overview of the different ways in which video content can be used, directly, to support various ways of navigating within large video libraries. Some of these content-based mechanisms have been developed and implemented on video already and we use our own Físchlár system to illustrate many of these. Others remain beyond our current technological capabilities but by sketching out the possibilities and illustrating with examples where possible, as we do in this paper, we help to define what challenges still remain to be addressed in the area of content-based video navigation.

## **The future of video indexing in the BBC**

*Chris Wilkie*

Media asset management technologies are revolutionising the way video can be digitised, indexed and made available to the user. In the BBC this means a new way of working for both production and archive staff. Pilot projects have been undertaken during the past 2-3 years which have informed our plans for implementing new systems in the working environment.

This presentation will show how video content is currently indexed in the BBC and how the integration of media asset management systems will help to automate the cataloguing, indexing and retrieval process, maximising the re-use potential of BBC television programmes.

The session will include a demonstration of one of our pilot projects, showing how the Media Archive system has been used to digitise and catalogue rushes from the BBC "Holiday" series and how this content can be accessed at the user's desktop.

## **The Challenges of Video Indexing and Retrieval Within a Commercial Environment**

*Chris Porter*

What are the current and future challenges facing the indexing and retrieval of stock footage? Interpreting the theory and research into a commercial reality, what is it really like down there at the front line working directly with customers who have specific subject requests?

## Bridging the semantic gap

*J P Eakins*

One of the biggest problems in content-based image retrieval is the so-called *semantic gap* - the mismatch between the capabilities of current CBIR systems and the needs of users. The vast majority of current CBIR techniques can retrieve images only by similarity of appearance, using features such as colour, texture or shape. User surveys indicate clearly that the majority of image users look for images with specified semantic content - types of object, scenes or individual people. Several research groups are currently seeking ways of bridging this gap by developing techniques for automatic image indexing. Are their efforts likely to lead to the development of usable systems in the foreseeable future? This session aims to answer this question by reviewing some of the main trends in semantic image retrieval research (including scene classification, model-based object recognition, and label propagation), and assessing the strengths and weaknesses of each approach. The presentation will be followed by a discussion in which recognized experts in the field of CBIR will give their views on likely progress in the area.